CLAIMS

What is claimed is:

1. A wireless modem unit (WMU) comprising:

a processor;

a modulator controlled by the processor;

a pre-preamble modulator controlled by the processor;

a summation circuit connected to receive an output from the modulator and an output from the pre-preamble modulator; and

an output stage connected to an output of the summation circuit;

wherein a pre-preamble signal generated by the pre-preamble modulator alerts the output stage of an impending data burst.

2. The wireless modem unit of Claim 1, wherein the pre-preamble modulator produces a carrier at a frequency outside of a normal data band.

3. The wireless modem unit of Claim 2, wherein the carrier is Amplitude Shift Key modulated.

4. The wireless modem unit of Claim 3, further comprising a diplexer connected between the output stage and a transverter.

5. A transverter control system comprising:

a diplexer connected to a wireless modem unit (WMU) and receiving a downstream signal and outputting an upstream signal;

a transmission path comprising:

a notch filter having an input connected to the upstream signal;

an upconverter connected to the notch filter; and

a transmitter switch connected to an output of the upconverter;

a control path comprising:

a band pass filter having an input connected to the upstream signal; and

a detector and demodulator unit connected to the band pass filter;

wherein the detector and demodulator unit outputs a control signal to control the upconverter and the transmitter switch based on a pre-preamble signal received from the wireless modem unit.

6. A transverter control system for a wireless modem, the system comprising:

a wireless modem unit (WMU) comprising:

a processor;

a modulator controlled by the processor;

a pre-preamble modulator controlled by the processor;

a summation circuit connected to receive an output from the modulator and an output from the pre-preamble modulator; and

an output stage connected to an output of the summation circuit;

wherein a pre-preamble signal generated by the pre-preamble modulator alerts the output stage of an impending data burst; and

a transverter control system comprising:

a diplexer connected to a wireless modem unit (WMU) and receiving a downstream signal and outputting an upstream signal;

a transmission path comprising:

a notch filter having an input connected to the upstream signal;

an upconverter connected to the notch filter; and

a transmitter switch connected to an output of the upconverter;

a control path comprising:

a band pass filter having an input connected to the upstream signal; and

a detector and demodulator unit connected to the band pass filter;

wherein the detector and demodulator unit outputs a control signal to control the upconverter and the transmitter switch based on a pre-preamble signal received from the wireless modem unit.

7. A method of control of a transverter in a wireless access system, the method comprising:

creating a pre-preamble signal and a control data signal in a wireless modem unit (WMU);

transmitting the pre-preamble signal as a notification signal;

transmitting the control data signal to the transverter;

detecting the pre-preamble signal at the transverter, and in response to the detected signal, disabling a transmitter switch;

decoding and processing the control data signal; and

resetting the transmitter switch.

8. A method of transverter control, the method comprising:

programming a modem to a low frequency;

transmitting control data at the low frequency;

re-programming the modem to an appropriate frequency to transmit actual data;

modifying transverter parameters in response to the control data; and

transmitting the actual data via the transverter.

9. A transverter pre-preamble signal detection circuit, the circuit comprising:

a tap connected to an upstream signal path;

an amplifier connected to a tap output;

a detector connected to an amplifier output;

a comparator having a first input and a second input, the first input connected to a detector output, and the second input connected to a reference voltage; and

a one-shot circuit connected to an output of the comparator, the one-shot controlling a power amplifier.

10. A transverter pre-preamble signal detection circuit having an automatic reference level determination, the circuit comprising:

a tap connected to an upstream signal path;

an amplifier connected to a tap output;

a detector connected to an amplifier output;

a first filter having a fast response time connected to a detector output;

a second filter having a slow response time connected to the detector output;

a first comparator having a first input connected to the first filter and a second input connected to the second filter; and

a one-shot circuit connected to an output of the first comparator, the one-shot circuit comprising:

a diode;

a low pass filter connected to the diode;

a reference voltage source; and

a second comparator having a first input connected to the reference voltage source, and a second input connected to the low pass filter.

11. A transverter pre-preamble signal detection circuit, the circuit comprising:

a tap connected to an upstream signal path;

a band pass filter connected to the tap;

an amplifier connected to a band pass filter output;

a detector connected to an amplifier output; and

a comparator having a first input and a second input, the first input connected to a detector output, and the second input connected to a reference voltage;

wherein the detector circuits detects control commands sent from a modem which are outside of a passband of the IF to RF conversions of the modem.